

§3175.31

(e) Pipeline Research Council International (PRCI), 3141 Fairview Park Dr., Suite 525, Falls Church, VA 22042; telephone 703-205-1600.

(1) PRCI Contract-NX-19, Manual for the Determination of Supercompressibility Factors for Natural Gas; December 1962 (“PRCI NX 19”), IBR approved for §3175.61(b).

(2) [Reserved]

NOTE TO PARAGRAPHS (b) THROUGH (e): You may also be able to purchase these standards from the following resellers: Techstreet, 3916 Rancho Drive, Ann Arbor, MI 48108; telephone 734-780-8000; [www.techstreet.com/api/apigate.html](http://www.techstreet.com/api/apigate.html); IHS Inc., 321 Inverness Drive South, Englewood, CO 80112; 303-790-0600; [www.ihs.com](http://www.ihs.com); SAI Global, 610 Winters Ave., Paramus, NJ 07652; telephone 201-986-1131; <http://infostore.saiglobal.com/store/>.

§3175.31 Specific performance requirements.

(a) *Flow rate measurement uncertainty levels.* (1) For high-volume FMPs, the measuring equipment must achieve an overall flow rate measurement uncertainty within ±3 percent.

(2) For very-high-volume FMPs, the measuring equipment must achieve an overall flow rate measurement uncertainty within ±2 percent.

(3) The determination of uncertainty is based on the values of flowing pa-

rameters (*e.g.*, differential pressure, static pressure, and flowing temperature for differential meters or velocity, mass flow rate, or volumetric flow rate for linear meters) determined as follows, listed in order of priority:

(i) The average flowing parameters listed on the most recent daily QTR, if available to the BLM at the time of uncertainty determination; or

(ii) The average flowing parameters from the previous day, as required under §3175.101(b)(4)(i) through (iii) (for differential meters).

(4) The uncertainty must be calculated under API 14.3.1, Section 12 (incorporated by reference, see §3175.30) or other methods approved by the AO.

(b) *Heating value uncertainty levels.* (1) For high-volume FMPs, the measuring equipment must achieve an annual average heating value uncertainty within ±2 percent.

(2) For very-high-volume FMPs, the measuring equipment must achieve an annual average heating value uncertainty within ±1 percent.

(3) Unless otherwise approved by the AO, the average annual heating value uncertainty must be determined as follows:

$$U_{HV} = 0.951 \times V_{95\%} \sqrt{\frac{1}{N}}$$

Where:

$U_{HV}$  = average annual heating value uncertainty

$V_{95\%}$  = heating value variability

$N$  = the number of samples taken per year ( $N = 1, 2, 4, 6, 12, \text{ or } 26$ )

(c) *Bias.* For low-volume, high-volume, and very-high-volume FMPs, the measuring equipment used for either flow rate or heating value determina-

tion must achieve measurement without statistically significant bias.

(d) *Verifiability.* An operator may not use measurement equipment for which the accuracy and validity of any input,

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factor, or equation used by the measuring equipment to determine quantity, rate, or heating value are not independently verifiable by the BLM. Verifiability includes the ability to independently recalculate the volume, rate, and heating value based on source records and field observations.

### § 3175.40 Measurement equipment approved by standard or make and model.

The measurement equipment described in §§3175.41 through 3175.49 is approved for use at FMPs under the conditions and circumstances stated in those sections, provided it meets or exceeds the minimum standards prescribed in this subpart.

### § 3175.41 Flange-tapped orifice plates.

Flange-tapped orifice plates that are constructed, installed, operated, and maintained in accordance with the standards in §3175.80 are approved for use.

### § 3175.42 Chart recorders.

Chart recorders used in conjunction with approved differential-type meters that are installed, operated, and maintained in accordance with the standards in §3175.90 are approved for use for low-volume and very-low-volume FMPs only, and are not approved for high-volume or very-high-volume FMPs.

### § 3175.43 Transducers.

(a) A transducer of a specific make, model, and URL is approved for use in conjunction with differential meters for high-volume or very-high-volume FMPs if it meets the following requirements:

(1) It has been type-tested under §3175.130;

(2) The documentation required in §3175.134 has been submitted to the PMT; and

(3) It has been approved by the BLM and placed on the list of type-tested equipment maintained at *www.blm.gov*.

(b) A transducer of a specific make, model, and URL, in use at an FMP before January 17, 2017, is approved for continued use if:

(1) Data supporting the published performance specification of the transducer are submitted to the PMT in lieu

of the documentation required in paragraph (a)(2) of this section; and

(2) It has been approved by the BLM and placed on the list of type-tested equipment maintained at *www.blm.gov*.

(c) All transducers are approved for use at very-low- and low-volume FMPs.

### § 3175.44 Flow-computer software.

(a) A flow computer of a particular make and model, and equipped with a particular software version, is approved for use at high- and very-high-volume FMPs if the flow computer and software version meet the following requirements:

(1) The documentation required in §3175.144 has been submitted to the PMT;

(2) The PMT has determined that the flow computer and software version passed the type-testing required in §3175.140, except as provided in paragraph (b) of this section; and

(3) The BLM has approved the flow computer and software version and has placed them on the list of approved equipment maintained at *www.blm.gov*.

(b) *Software versions (high- and very-high-volume FMPs)*. (1) Software revisions that affect or have the potential to affect determination of flow rate, determination of volume, determination of heating value, or data or calculations used to verify flow rate, volume, or heating value must be type-tested under §3175.140.

(2) Software revisions that do not affect or have the potential to affect the determination of flow rate, determination of volume, determination of heating value, or data and calculations used to verify flow rate, volume, or heating value are not required to be type-tested, however, the operator must provide the BLM with a list of these software versions and a brief description of what changes were made from the previous version. (The software manufacturer may provide such information instead of the operator.)

(c) *Software versions (low- and very-low-volume FMPs)*. All software versions are approved for use at low- and very-low-volume FMPs, unless otherwise required by the BLM.